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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/086,402 | 02/28/2002 | Kevin T. Lefebvre | 100110671-1 | 1331 |

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| EXAMINER | |
|---|---|
| NGUYEN, KIMBINH T | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2671 | 2 |

DATE MAILED: 12/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/086,402 | LEFEBVRE ET AL. | |
| | Examiner | Art Unit | |
| | Kimbinh T. Nguyen | 2671 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *28 February 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

13)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

a) ☐ The translation of the foreign language provisional application has been received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

## DETAILED ACTION

1. Claims 1-17 are pending in the application.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-6, 8, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Geshwind (6,590,573) in view of Tabata (6,111,597).

**Claim 1**, Geshwind discloses generating three-dimensional data defining a non-stereo image (3D photographs (col. 3, line 19); 3D painting, 3D rectangular solid; 3D brush shape; col. 8, lines 32-36; col. 9, lines 36-38); assigning a first screen portion to a first rendering node; assigning a second screen portion to a second rendering node (left and right image pictures (col. 8, lines 10-20); Geshwind does not teach rendering left and right images by the first and second rendering node (screen); however, Tabata teaches rendering, by the first rendering node, a left image portion from the 3D data; rendering, by the second rendering node, a right image portion from the 3D data (col. 10, lines 35-40); and Geshwind teaches sequentially assembling the left image portion and the right image portion into the composite image (col. 14, lines 34-37). It would have been obvious to one of ordinary skill in the art at the time the invention was made

to incorporate the rendering to obtain stereo display data as taught by Tabata into the compositing images of Geshwind's method for forming a stereo image, because it would supply as data representing images to be displayed on the screens, respectively, of the stereo image display (col. 4, lines 24-27). **Claim 5**, Tabata teaches generating 2D data defining a window in which the composite image is to be rendered (col. 10, lines 26-30).

**Claims 2, 8**, Geshwind teaches generating 3D data comprising RGB data and depth data defining the non-stereo image (col. 2, lines 14-27). **Claim 3**, assigning, at an offset from the first screen portion, the second screen portion to the second rendering node (col. 2, lines 31-34). **Claims 4, 16** assigning the second screen portion at an x-axis offset (offset in the horizontal direction; col. 2, line 32) and a y-axis offset from the first screen portion (offset down and right or up or left; col. 16, lines 32-33).
Claim rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. (5,982,375) in view of Geshwind (6,590,573).

**Claim 6**, Nelson et al. discloses a processing element (host CPU 102; col. 4, lines 13-14); and a memory module maintaining a stereo transform application executable by the processing element (col. 4, lines 14-15), the stereo transform application operable to receive 3D data defining a non-stereo image (the processor enables stereo mode and to execute an application for rendering objects on the display screen in the stereo mode; abstract), Nelson does not suggest a composite image; however, Geshwind teaches process the three-dimensional data and provide output of at least one of a left channel image and a right channel image of a composite image comprised of the left channel image and the right channel image (col. 14, lines 34-37). It

would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the compositing image as taught by Geshwind into the stereo transform application of Nelson, because using such image pairs (left and right images) may be displayed by true 3D display systems to achieve synthetic stereoscopic image (col. 4, lines 27-30).

4. Claims 7, 9-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. (5,982,375) in view of Geshwind (6,590,573) and further in view of Bowen et al. (6,147,695).

**Claim 7**, Bowen et al. discloses a pipeline hardware operable to transmit the output to a compositing node operable to assemble the output with an output from another node into a composite image (col. 17, lines 51-67). **Claim 9**, Bowen discloses the memory module further maintains an application programmer's interface layer in communication with the stereo transform application (communication interface 924), the three-dimensional data provided to the stereo transform application via the application programmer's interface (col. 18, lines 16). **Claim 10**, Bowen et al. teaches the application programmer's interface comprises an instance of an OpenGL protocol layer (col. 4, lines 17-22; lines 52-58). **Claim 12**, Bowen et al. teaches the application that controls a bitmap display is an instance of X server executable by the processing element (col. 14, lines 4-14). **Claim 11**, Bowen et al. discloses the memory module maintains an application (frame buffer environment) that controls a bitmap display (textured, color images) that receives and processes two-dimensional data associated with the three-dimensional data (col. 17, lines 53-67). It would have been obvious to one

of ordinary skill in the art at the time the invention was made to incorporate a graphic pipeline as taught by Bowen into the displaying the stereo mode of Nelson's method, because it would improve performance for rendering object to be viewed in the stereo mode (col. 1, lines 10-11).

**Claim 13**, Bowen et al. discloses a network (network-based computer system; col. 13, lines 60-64) and a combining two images (col. 15, lines 20-21). Further, the rationale provided in the rejection of claims 1, 2 and 6 is incorporated herein. It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the network-based system as taught by Bowen into the displaying the stereo mode of Nelson's method, because it would improve performance for rendering object to be viewed in the stereo mode (col. 1, lines 10-11).

**Claim 14,** Nelson et al. teaches a master node (host CPU 102; fig. 2) running an instance of a non-stereo graphics application, the master node (using graphics accelerator renders left and right images) operable to provide the data defining the three-dimensional non-stereo image (col. 4, lines 60-63) to each of the first and second rendering nodes (stereo glasses 92; fig. 1).

**Claim 15**, Geshwind teaches the left channel image and the right channel image are assigned to respective portions of the composite image (col. 16, lines 59-62).

5. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Nelson et al. (5,982,375) in view of Bowen et al. (6,147,695) and further in view of Grapes (6,446,130).

**Claim 17**, Grapes discloses a remote node, the compositor node operable to transmit the composite image to the remote node (remote data transmission line, and requires an Ethernet adapter to transfer the information through the system; col. 2, lines 48-55). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the transmitting the compositing image as taught by Grapes into network of Nelson's method, because it would provide multiple streams of content to users of the systems, allowing the users interact with the system (abstract).

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Kimbinh Nguyen** whose telephone number is **(703) 305-9683**. The examiner can normally be reached **(Monday- Thursday from 7:00 AM to 4:30 PM and alternate Fridays from 7:00 AM to 3:30 PM)**.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman, can be reached at (703) 305-9798.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

**Or faxed to:**

**(703) 872-9314 (for Technology Center 2600 only)**

Hand-delivered responses should be brought to Crystal Part II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

November 28, 2003

Kimbinh Nguyen

Patent Examiner AU 2671